1) $\frac{x+2}{3} = 12$ ; $x+2 = 3 \cdot 12$ ; $x+2 = 36$ ; $x = 36-2$ ; $\boxed{x=34}$

2) $\frac{x-2}{-2} = 6$ ; $x-2 = 6 \cdot (-2)$ ; $x-2 = -12$ ; $x = -12+2$

$\boxed{x = -10}$

3) $\frac{-5+x}{-3} = -5$ ; $-5+x = (-5)\cdot(-3)$ ; $-5+x = 15$

$x = 15+5$ ; $\boxed{x = 20}$

4) $\frac{-5-x}{-3} = -2$ ; $-5-x = (-2)(-3)$ ; $-5-x = 6$ ;

$-x = 6+5$ ; $\boxed{x = -11}$

5) $\frac{-4}{2} = x$ ; $\boxed{x = -2}$

6) $\frac{x}{3} + \frac{4x}{2} = \frac{6}{2}$ ; $\frac{2x}{6} + \frac{12x}{6} = \frac{18}{6}$ ; $2x+12x = 18$

$14x = 18$ ; $x = \frac{18}{14}$ ; $\boxed{x = \frac{9}{7}}$

7) $x + \frac{3x}{2} = \frac{7}{4}$ ; $\frac{4x}{4} + \frac{6x}{4} = \frac{7}{4}$ ; $4x+6x = 7$

$10x = 7$ ; $\boxed{x = \frac{7}{10}}$

8) $\frac{8}{3} = \frac{2x}{9}$ ; $9 \cdot 8 = 3 \cdot 2x$ ; $72 = 6x$ ; $x = \frac{72}{6}$ ; $\boxed{x=12}$

9) $\frac{x}{2} + 1 = \frac{2x}{2}$ ; $\frac{x}{2} + \frac{2}{2} = \frac{2x}{2}$ ; $x+2 = 2x$

$2x-x = 2$ ; $\boxed{x = 2}$

10) $-x - \frac{x}{5} = \frac{6x}{3} - 2$ ; $\frac{-15x}{15} - \frac{3x}{15} = \frac{30x}{15} - \frac{30}{15}$

$-15x-3x-30x = -30$ ; $-48x = -30$ ; $x = \frac{-30}{-48}$

$\boxed{x = \frac{5}{8}}$

11) $\frac{x+2}{9} - \frac{x-1}{3} = -1$

$\frac{x+2}{9} - \frac{3x-3}{9} = \frac{-9}{9}$

$x+2-3x+3 = -9$

$-2x = -9-2-3$

$-2x = -14$

$x = \frac{-14}{-2}$

$\boxed{x = 7}$

12) $x - \frac{x+1}{2} = 3$

$\frac{2x}{2} - \frac{x+1}{2} = \frac{6}{2}$

$2x - (x+1) = 6$

$2x - x - 1 = 6$

$2x - x = 6 + 1$

$\boxed{x = 7}$

13) $\frac{x}{3} + \frac{x+2}{4} - \frac{x+3}{9} = 3$

$m.c.m(3,4,9) = 36 \quad (4 \cdot 9)$

$3 \;//\; 4 = 2^2 \;//\; 9 = 3^2$

$\frac{12x}{36} + \frac{9x+18}{36} - \frac{4x+12}{36} = \frac{108}{36}$

$12x + 9x - 4x = 108 - 18 - 12$

$17x = 78$

$\boxed{x = \frac{78}{17}}$

14) $\frac{x}{2} + \frac{x-1}{3} - \frac{x+1}{4} = 1$

$\frac{6x}{12} + \frac{4x-4}{12} - \frac{3x+3}{12} = \frac{12}{12}$

$6x + 4x - 4 - 3x - 3 = 12$

$7x = 12 + 4 + 3$

$7x = 19$

$\boxed{x = \frac{19}{7}}$

15) $\frac{x+1}{5} - \frac{x+3}{6} = 0$

$\frac{6x+6}{30} - \frac{5x+15}{30} = \frac{6}{30}$

$6x + 6 - 5x - 15 = 0$

$6x - 5x = 15 - 6$

$\boxed{x = 9}$

16) $\frac{5x+7}{2} - \frac{3x+9}{4} = \frac{2x+4}{3} + 5$

$\frac{6(5x+7)}{12} - \frac{3(3x+9)}{12} = \frac{4(2x+4)}{12} + \frac{60}{12}$

$30x + 42 - 9x - 27 = 8x + 16 + 60$

$30x - 9x - 8x = 16 + 60 - 42 + 27$

$13x = 61$

$\boxed{x = \frac{61}{13}}$

17) $2 + \frac{3x-1}{15} + \frac{x-4}{5} = \frac{x+4}{3}$

$\frac{30}{15} + \frac{3x-1}{15} + \frac{3x-12}{15} = \frac{5x+20}{15}$

$30 + 3x - 1 + 3x - 12 = 5x + 20$

$3x + 3x - 5x = 20 + 1 + 12$

$\boxed{x = 33}$